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A High Resolution, Metric-Based Transcript Map of the Human Genome

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We have completed the first generation, high-resolution, metric physical map of human chromosome 19. This map provides clonal continuity in YACs, BACs, PACs, and cosmids for over 85% of the euchromatin. Order and distance of the individual clonal elements has been determined by high resolution fluorescence in situ hybridization (FISH) and over 62% of the chromosome has been defined to the level of an ECORI restriction map. Over 300 GDB loci, including 126 genes have been linked to mapped cosmids. More than 340 STSs/ESTs or clone markers have been mapped and ordered. Their interval distances has been measured by FISH or restriction maps and their average density is 1 per 147 kbp. The techniques, instrumentation, and automation employed for creating a map of chromosome 19 are extensible to genomic scale map construction efforts.

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